

Custom Solutions Application 2197: Slave Mode TEC – Expanded IO Capability and Secure Mode

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Overview

Application 2197 runs on TEC Part Number 540-863U and expands its IO capability. Its purpose is to allow point extension in the TEC.

Secure Mode Operation

Secure Mode prevents unauthorized users from making changes to the TEC through the MMI port or room sensor. This mode can only be enabled/disabled through an Insight command. When Secure Mode is enabled, any attempts to make point changes in the TEC will be rejected and result in an error message indicating that the priority is too low.

Room Temperature Offset

Room Temperature Offset, RMTMP OFFSET (Point 3), is a user-adjustable offset that will compensate for deviations between the value of ROOM TEMP (Point 4) and the actual room temperature. This corrected value is displayed in CTL TEMP (Point 78).

$\text{CTL TEMP (Point 78)} = \text{ROOM TEMP (Point 4)} + \text{RMTMP OFFSET (Point 3)}$.

Using the Controller as a Point Extension Device

Since the controller is used only as a point extension device, with no control application in effect, all the points must be unbundled at the field panel. These points must be controlled from the field panel in order to be used.

NOTE: Application 2197 allows the inputs at AI 3, AI 4, and AI 5, which are normally analog, to be used as spare DIs if desired

See Figure 2197-1 for the wiring diagram. See Table 2197-1 for point database information.

Wiring Diagram



CAUTION:

The Controller's DOs control 24 Vac loads only. The maximum rating is 12 VA for each DO. Use an interposing 220V 4-relay module for any of the following:

- VA requirements higher than the maximum
- 110 or 220 Vac requirements
- DC power requirements
- Separate transformers used to power the load.

NOTE: Consult with the local representative if terminations are missing or are different.

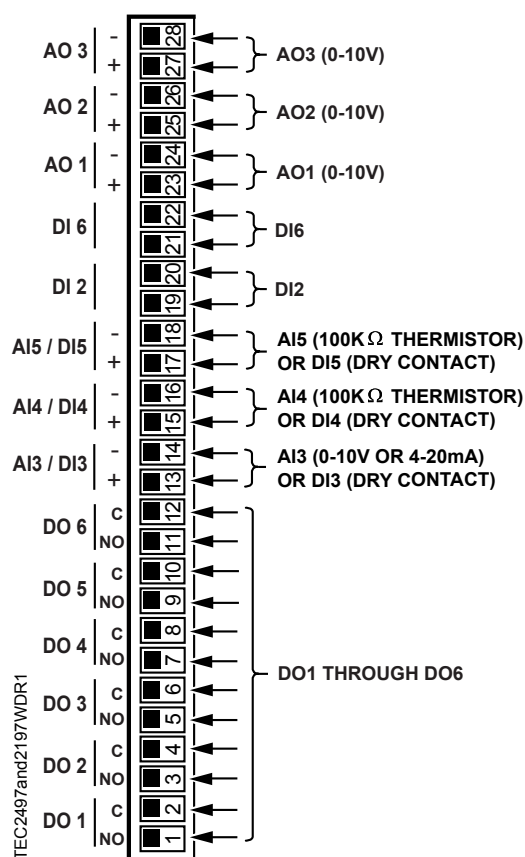


Figure 2197-1. Application 2197 Wiring Diagram.

NOTES: A voltage/current switch for AI 3 is located under the controller's cover on the circuit board (behind AI 3). It must be set either to *voltage* or *current* position according to function.

If the voltage/current switch is set to *current* and a 4 - 20 mA sensor is connected to AI 3, then special wiring requirements must be followed. See Figure 2197-2.

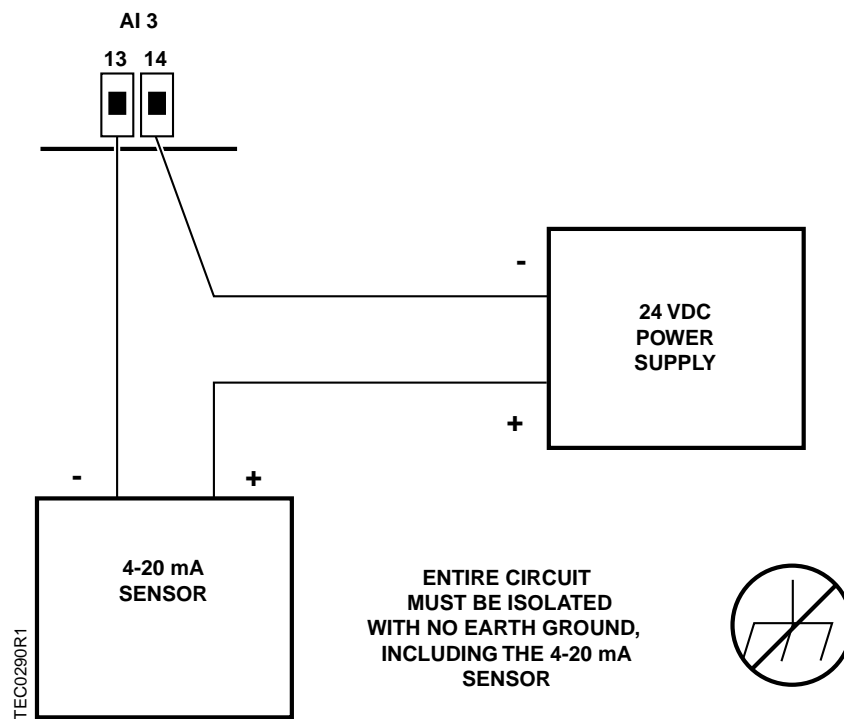


Figure 2197-2. Special Wiring Requirements for AI 3 if a 4 - 20 mA Sensor is Used.

Table 2197-1. Point Database for Application 2197.

Point Number	Descriptor	Factory Default (SI Units)	Eng. Units (SI Units)	Slope (SI Units)	Intercept (SI Units)	On Text	Off Text
01	CTLR ADDRESS	99	–	1	0	–	–
02	APPLICATION	2197	–	1	0	–	–
03	RMTMP OFFSET	0.0 (0.0)	DEG F (DEG C)	0.25 (0.14)	-31.75 (-17.78)	–	–
{04}	ROOM TEMP	74.0 (23.45)	DEG F (DEG C)	0.25 (0.14)	48.0 (8.89)	–	–
{13}	RM STPT DIAL	74.0 (23.45)	DEG F (DEG C)	0.25 (0.14)	48.0 (8.89)	–	–
{19}	DI OVRD SW	OFF	–	–	–	ON	OFF
{29}	DAY.NGT	DAY	–	–	–	NIGHT	DAY
40	DO DIR.REV	0	–	1	0	–	–
{41}	DO 1	OFF	–	–	–	ON	OFF
{42}	DO 2	OFF	–	–	–	ON	OFF
{43}	DO 3	OFF	–	–	–	ON	OFF
{44}	DO 4	OFF	–	–	–	ON	OFF
{45}	DO 5	OFF	–	–	–	ON	OFF
{46}	DO 6	OFF	–	–	–	ON	OFF
{47}	DI 2	OFF	–	–	–	ON	OFF
{48}	DI 3	OFF	–	–	–	ON	OFF
{49}	DI 4	OFF	–	–	–	ON	OFF
{50}	DI 5	OFF	–	–	–	ON	OFF
{51}	DI 6	OFF	–	–	–	ON	OFF
{52}	AI 3	0.0	PCT	0.4	0.0	–	–
{53}	AI 4	74.0 (23.496)	DEG F (DEG C)	0.5 (0.28)	37.5 (3.056)	–	–
{54}	AI 5	74.0 (23.496)	DEG F (DEG C)	0.5 (0.28)	37.5 (3.056)	–	–
{56}	AOV 1	0.0	VOLTS	0.01	0.0	–	–
{57}	AOV 2	0.0	VOLTS	0.01	0.0	–	–
{58}	AOV 3	0.0	VOLTS	0.01	0.0	–	–
{78}	CTL TEMP	74.0 (23.45)	DEG F (DEG C)	0.25 (0.14)	48.0 (8.89)	–	–
{99}	ERROR STATUS	0	–	1	0	–	–

1. Points not listed are not used in this application.
2. A single value in a column means that the value is the same in English units and in SI units.
3. Point numbers that appear in brackets {} may be unbundled at the field panel.